What is claimed is:

1. A polymer battery module packaging sheet for packaging a polymer battery module, comprising, as essential components:

a base layer,

an aluminum layer,

a chemical conversion coating, and

an innermost layer;

wherein the innermost layer consists of a single layer.

2. The polymer battery module packaging sheet according to claim 1, wherein

the innermost layer is formed of a cast polypropylene resin.

3. The polymer battery module packaging sheet according to claim 2, wherein

the chemical conversion coating is formed by phosphate treatment.

4. The polymer battery module packaging sheet according to claim 2, wherein

the an adhesive layer formed by a dry lamination method is interposed between the chemical conversion coating and the innermost layer.

5. The polymer battery module packaging sheet according to claim 1, wherein

the innermost layer is formed of a polyethylene resin.

6. The polymer battery module packaging sheet according to claim 5, wherein

the innermost layer is formed of a medium-density polyethylene resin.

7. The polymer battery module packaging sheet according to claim 5, wherein

the innermost layer is formed of a linear low-density polyethylene resin.

8. The polymer battery module packaging sheet according to claim 5, wherein

the chemical conversion coating is formed by phosphate treatment.

9. A polymer battery module packaging sheet for packaging

a polymer battery module, comprising, as essential components:

a base layer,

an aluminum layer,

a chemical conversion coating, and

an innermost layer;

wherein the innermost layer consists of an adhesive resin layer and an innermost resin layer.

10. The polymer battery module packaging sheet according to claim 9, wherein

the adhesive resin layer is formed of an acid-modified polypropylene resin, the innermost resin layer is formed of a polypropylene resin, and the adhesive resin layer and the innermost layer are formed by a coextrusion lamination method.

11. The polymer battery module packaging sheet according to claim 10, wherein

the chemical conversion coating is formed by phosphate treatment.

12. The polymer battery module packaging sheet according to claim 9, wherein

the adhesive resin layer is formed of an acid-modified polypropylene resin, the innermost resin layer is a film of a polypropylene resin, and the adhesive resin layer and the innermost resin layer are formed by a sandwich lamination method.

13. The polymer battery module packaging sheet according to claim 12, wherein

the chemical conversion coating is formed by phosphate treatment.

14. The polymer battery module packaging sheet according to claim 12, wherein

an additional chemical conversion coating is interposed between the base layer and the aluminum layer.

15. The polymer battery module packaging sheet according to claim 9, wherein

the adhesive resin layer contains an acid-modified polypropylene resin, the innermost resin layer contains an ethylene-butene-propylene terpolymer, and the adhesive resin layer and the innermost layer are formed by a coextrusion

lamination method.

16. The polymer battery module packaging sheet according to claim 15, wherein

the chemical conversion coating is formed by phosphate treatment.

17. The polymer battery module packaging sheet according to claim 15, wherein

the innermost resin layer is formed of a polypropylene resin containing not less than 5% of a terpolymer.

18. The polymer battery module packaging sheet according to claim 15, wherein

the innermost resin layer is a multilayer structure including at least one polypropylene resin layer containing not less than 5% of a terpolymer.

19. The polymer battery module packaging sheet according to claim 15, wherein

the adhesive resin layer is formed of an acid-modified polypropylene resin containing not less than 5% of a terpolymer.

20. The polymer battery module packaging sheet according to claim 15, wherein

an additional chemical conversion coating is interposed between the base layer and the aluminum layer.

21. The polymer battery module packaging sheet according to claim 9, wherein

the adhesive resin layer contains an acid-modified polypropylene resin, the innermost resin layer is a film of an ethylene-butene-propylene terpolymer, and the adhesive resin layer and the innermost resin layer are formed by a sandwich lamination method.

22. The polymer battery module packaging sheet according to claim 21, wherein

the chemical conversion coating is formed by phosphate treatment.

23. The polymer battery module packaging sheet according to claim 21, wherein

the innermost resin layer is a film of a polypropylene resin containing not less than 5% of a terpolymer.

24. The polymer battery module packaging sheet according to claim 21, wherein

the innermost resin layer is a multilayer structure including at least one polypropylene resin layer containing not less than 5% of a terpolymer.

25. The polymer battery module packaging sheet according to claim 21, wherein

the adhesive resin layer is formed of an acid-modified polypropylene resin containing not less than 5% of a terpolymer.

26. The polymer battery module packaging sheet according to claim 9, wherein

the adhesive resin layer is formed of an acid-modified polyethylene resin, the innermost resin layer is formed of a polyethylene resin, and the adhesive resin layer and the innermost layer are formed by a coextrusion lamination method.

27. The polymer battery module packaging sheet according to claim 26, wherein

the chemical conversion coating is formed by phosphate treatment.

28. The polymer battery module packaging sheet according to claim 26, wherein

an additional chemical conversion coating is interposed between the base layer and the aluminum layer.

29. The polymer battery module packaging sheet according to claim 9, wherein

the adhesive resin layer is formed of an acid-modified polyethylene resin, the innermost layer is formed of a polyethylene resin, and the adhesive resin layer and the innermost layer are formed by a sandwich lamination method.

30. The polymer battery module packaging sheet according to claim 29, wherein

the chemical conversion coating is formed by phosphate treatment.

31. The polymer battery module packaging sheet according to claim 29, wherein

an additional chemical conversion layer is interposed between the base layer and the aluminum layer.

32. The polymer battery module packaging sheet according to claim 9, wherein

the adhesive resin layer is formed of a material containing an acid-modified polypropylene resin as a principal component, the innermost resin layer includes a layer formed of an ethylene-rich random polypropylene resin having an ethylene content in the range of 5% to 10% by mol, and the adhesive resin layer and the innermost resin layer are formed by a coextrusion lamination method.

33. The polymer battery module packaging sheet according to claim 32, wherein

the chemical conversion coating is formed by phosphate treatment.

34. The polymer battery module packaging sheet according to claim 32, wherein

the innermost resin layer is formed of an ethylene-rich polypropylene resin.

35. The polymer battery module packaging sheet according to claim 32, wherein

the innermost resin layer is a multilayer structure including at least one layer formed of an ethylene-rich random polypropylene resin.

36. The polymer battery module packaging sheet according to claim 32, wherein

the innermost resin layer contains an antiblocking agent.

37. The polymer battery module packaging sheet according to claim 9, wherein

the adhesive resin layer is formed of a material containing an acid-modified polypropylene resin as a principal component, the innermost resin layer includes a layer formed of an ethylene-rich random polypropylene resin having an ethylene content in the range of 5% to 10% by mol, and the adhesive resin layer and the innermost resin layer are formed by a sandwich lamination method.

38. The polymer battery module packaging sheet according to claim 37, wherein

the chemical conversion coating is formed by phosphate

treatment.

39. The polymer battery module packaging sheet according to claim 37, wherein

the a bonding layer is formed by a dray lamination method is interposed between the base layer and the aluminum layer.

40. The polymer battery module packaging sheet according to claim 37, wherein

the innermost resin layer is formed of a random polypropylene resin having an ethylene content in the range of 5% to 10% by mol.

41. The polymer battery module packaging sheet according to claim 37, wherein

the innermost resin layer is a multilayer structure including at least one layer formed of an ethylene-rich random polypropylene resin.

42. The polymer battery module packaging sheet according to claim 37, wherein

the innermost resin layer contains an antiblocking agent.

43. A polymer battery module packaging sheet manufacturing method, comprising the steps of:

processing one of surfaces of an aluminum layer by chemical conversion treatment;

dry-laminating the aluminum layer to a base layer with the other surface of the aluminum layer not processed by the chemical conversion treatment bonded to the base layer; and

forming an innermost layer on the surface processed by the chemical conversion treatment of the aluminum layer by extruding a molten resin for forming the innermost layer in a molten resin film by an extrusion method while a surface of the molten resin film facing the aluminum layer is processed by ozone treatment.

44. A polymer battery module packaging sheet manufacturing method, comprising the steps of:

processing one of surfaces of an aluminum layer by chemical conversion treatment;

dry-laminating the aluminum layer to a base layer with the other surface thereof not processed by the chemical conversion treatment bonded to the base layer; and

laminating a film consisting of an innermost layer and an adhesive resin layer to the surface processed by the chemical conversion treatment of the aluminum layer by a coextrusion method while a surface of a molten resin film forming the adhesive resin layer facing the aluminum layer is processed by ozone treatment.

45. A polymer battery module packaging sheet manufacturing method, comprising the steps of:

processing one of surfaces of an aluminum layer by chemical conversion treatment;

dry-laminating the aluminum layer to a base layer with the other surface thereof not processed by the chemical conversion treatment bonded to the base layer;

forming an adhesive resin layer by extruding an adhesive resin in a molten resin film on the surface of the aluminum layer processed by the chemical conversion treatment while a surface of the molten resin film facing the aluminum layer is processed by ozone treatment, and bonding a film for forming an innermost resin layer to the aluminum layer by the adhesive resin layer.

46. The polymer battery module packaging sheet manufacturing method according to claim 44 or 45, wherein

the adhesive resin layer is formed of a medium-density polyethylene resin.

47. The polymer battery module packaging sheet manufacturing method according to claim 44 or 45, wherein

the adhesive resin layer is formed of a linear low-density polyethylene resin.

48. The polymer battery module packaging sheet manufacturing method according to any one of claims 43 to 45 further comprising:

the step of heating a laminated sheet including the aluminum layer, the base layer, the adhesive resin layer and the innermost layer at a temperature not lower than a softening point of a material forming the adhesive resin layer.

49. The polymer battery module packaging sheet manufacturing method according to any one of claims 43 to 45, wherein

the surface of the aluminum layer facing the molten resin

film is heated at a temperature not lower than a softening point of a resin forming the molten resin film.

50. A polymer battery module packaging sheet manufacturing method comprising the step of sequentially laminating at least a base layer, an aluminum layer, a chemical conversion coating and an innermost layer;

wherein the innermost layer is formed of a polyethylene resin.

51. The polymer battery module packaging sheet manufacturing method according to claim 50, wherein

the innermost layer is formed of a medium-density polyethylene resin.

52. The polymer battery module packaging sheet manufacturing method according to claim 50, wherein

the innermost layer is formed of a linear low-density polyethylene resin.

53. The polymer battery module packaging sheet manufacturing method according to claim 50, wherein

the chemical conversion coating is formed by phosphate treatment.

54. A polymer battery module packaging sheet manufacturing method comprising the steps of:

processing both surfaces of an aluminum layer by chemical conversion treatment;

dry-laminating a base layer to one of the surfaces of the aluminum layer; and

laminating an innermost layer to the other surface of the aluminum layer by extruding a molten resin in a molten resin film by an extrusion process while a surface of the molten resin film facing the aluminum layer is processed by ozone treatment.

55. A polymer battery module packaging sheet manufacturing method comprising the steps of:

processing both surfaces of an aluminum layer by chemical conversion treatment;

dry-laminating a base layer to one of the surfaces of the aluminum layer; and

laminating a film of a molten adhesive resin film for

forming an adhesive resin layer, and an innermost layer formed by a coextrusion lamination method to the other surface of the aluminum layer while a surface of the molten adhesive resin film facing the aluminum layer is processed by ozone treatment.

56. A polymer battery module packaging sheet manufacturing method comprising the steps of:

processing both surfaces of an aluminum layer by chemical conversion treatment;

dry-laminating a base layer to one of the surfaces of the aluminum layer; and

extruding an adhesive resin on the other surface of the aluminum layer in a molten adhesive resin film, sandwich-laminating a film for forming an innermost layer to the other surface of the aluminum layer by the molten adhesive resin film while a surface of the molten adhesive resin film facing the aluminum layer is processed by ozone treatment.

57. The polymer battery module packaging sheet manufacturing method according to any one of claims 54 to 56, wherein

the adhesive resin layer is formed of a medium-density polyethylene resin.

58. The polymer battery module packaging sheet manufacturing method according to any one of claims 54 to 56, wherein

the adhesive resin layer is formed of a linear low-density polyethylene resin.

59. The polymer battery module packaging sheet manufacturing method according to any one of claims 54 to 56 further comprising:

the step of heating a laminated sheet including the base layer, the aluminum layer, the adhesive resin layer and the innermost layer at a temperature not lower than a softening temperature of the adhesive resin.

60. The polymer battery module packaging sheet manufacturing method according to any one of claims 54 to 56, wherein

the surface of the aluminum layer facing the molten resin

film is heated at a temperature not lower than a softening point of the molten resin film when laminating the molten resin film to the aluminum layer.

61. A polymer battery module packaging sheet manufacturing method comprising the steps of:

processing at least one of surfaces of an aluminum layer by chemical conversion treatment;

dry-laminating a base layer to one of the surfaces of the aluminum layer;

forming a laminated sheet by laminating a film consisting of an adhesive resin layer and an innermost layer and formed by a coextrusion lamination method to the surface processed by the chemical conversion treatment of the aluminum layer; and

heating the laminated sheet so that the adhesive resin layer is heated at a temperature not lower than its softening point.

62. The polymer battery module packaging sheet manufacturing method according to claim 61, wherein

both the surfaces of the aluminum layer are processed by a chemical conversion treatment.

63. A polymer battery module packaging sheet manufacturing method comprising the steps of:

processing at least one of surfaces of an aluminum layer by chemical conversion treatment;

dry-laminating a base layer to one of the surfaces of the aluminum;

forming a laminated sheet by bonding a polypropylene resin film with an adhesive resin layer of an acid-modified polypropylene resin to the other surface processed by the chemical conversion treatment of the aluminum layer by a sandwich lamination process; and

heating the laminated sheet so that the adhesive resin layer is heated at a temperature not lower than its softening point.

64. The polymer battery module packaging sheet manufacturing method according to claim 63, wherein

both the surfaces of the aluminum layer are processed by

the chemical conversion treatment.

65. A polymer battery module packaging sheet manufacturing method comprising the steps of:

processing at least one of surfaces of an aluminum layer by chemical conversion treatment;

dry-laminating a base layer to one of the surfaces of the aluminum layer;

forming a laminated sheet by laminating a film consisting of a film of an acid-modified polyethylene resin and a film of a polyethylene resin to the surface processed by the chemical conversion treatment of the aluminum layer by a coextrusion lamination method; and

heating the laminated sheet so that the film of the acid-modified polyethylene resin is heated at a temperature not lower than the softening point of the acid-modified polyethylene resin.

66. The polymer battery module packaging sheet manufacturing method according to claim 65, wherein

both the surfaces of the aluminum layer are processed by the chemical conversion treatment.

67. A polymer battery module packaging sheet manufacturing method comprising the steps of:

processing at least one of surfaces of an aluminum layer by chemical conversion treatment;

dry-laminating a base layer to one of the surfaces of the aluminum layer;

forming a laminated sheet by bonding a film of a polyethylene resin with an adhesive resin layer of an acid-modified polyethylene resin to the surface processed by the chemical conversion treatment of the aluminum layer by a sandwich lamination process; and

heating the laminated sheet so that the adhesive resin layer is heated at a temperature not lower than the softening point of the acid-modified polyethylene resin.

68. The polymer battery module packaging sheet manufacturing method according to claim 67, wherein

both the surfaces of the aluminum layer are processed by

the chemical conversion treatment.

69. A polymer battery module packaging sheet manufacturing method comprising the steps of:

processing at least one of surfaces of an aluminum layer by chemical conversion treatment;

dry-laminating a base layer to one of the surfaces of the aluminum layer;

forming a laminated sheet by laminating a film consisting of a film of an acid-modified polypropylene resin and a film of an ethylene-rich random polypropylene resin to the surface processed by the chemical conversion treatment of the aluminum layer by a coextrusion lamination method; and

heating the laminated sheet so that the adhesive resin layer is heated at a temperature not lower than the softening point of the acid-modified polypropylene resin.

70. The polymer battery module packaging sheet manufacturing method according to claim 69, wherein

the innermost layer is a multilayer structure including at least one layer of an ethylene-rich random polypropylene resin.

71. A polymer battery module packaging sheet manufacturing method comprising the steps of:

processing at least one of surfaces of an aluminum layer by chemical conversion treatment;

dry-laminating a base layer to one of the surfaces of the aluminum layer; and

forming a laminated sheet by heating the surface processed by the chemical conversion treatment of the aluminum layer at a temperature not lower than a softening point of an acid-modified polypropylene resin and laminating a film consisting of a film of the acid-modified polypropylene resin and a film of an ethylene-rich random polypropylene resin to the surface processed by the chemical conversion treatment of the aluminum layer by a coextrusion lamination method.

72. The polymer battery module packaging sheet manufacturing method according to claim 71, wherein

the innermost layer is a multilayer structure including at least one layer of an ethylene-rich random polypropylene resin.

73. A polymer battery module packaging sheet manufacturing method comprising the steps of:

processing at least one of surfaces of an aluminum layer by chemical conversion treatment;

dry-laminating a base layer to one of the surfaces of the aluminum layer;

forming a laminated sheet by bonding a film of an ethylene-rich random polypropylene resin with an adhesive resin layer of an acid-modified polypropylene resin to the surface processed by the chemical conversion treatment of the aluminum layer by a sandwich lamination process; and

heating the laminated sheet so that the adhesive resin layer is heated at a temperature not lower than the softening point of the resin layer.

74. The polymer battery module packaging sheet manufacturing method according to claim 73, wherein

the polypropylene layer is a multilayer structure including at least one layer of an ethylene-rich random polypropylene resin.

75. A polymer battery module packaging sheet manufacturing method comprising the steps of:

processing at least one of surfaces of an aluminum layer by chemical conversion treatment;

dry-laminating a base layer to one of the surfaces of the aluminum layer;

forming a laminated sheet by bonding a film of an ethylene-rich random polypropylene resin with an adhesive resin layer of an acid-modified polypropylene resin to the surface processed by the chemical conversion treatment of the aluminum layer by a sandwich lamination process, while heating the surface processed by the chemical conversion treatment of the aluminum layer at a temperature not lower than a softening point of the acid-modified polypropylene.

76. The polymer battery module packaging sheet manufacturing method according to claim 75, wherein

the innermost layer is a multilayer structure including at least one layer of an ethylene-rich random polypropylene resin.